RELATION BETWEEN THE SMALL HOUSE AND THE TOWN PLAN

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First analyze, then organize. Such is the advice given by Frederick W. Taylor in his volume on *The Principles of Scientific Management;* and without doubt the most logical method of expressing "the relation between the small house and the town plan" is by schematic diagram showing a complete graphical analysis.

On analysis, one will readily see that the small house is an element and the purpose of this paper is to point out and accentuate the fact that this element controls the most remote fiber of the network.

THE SMALL HOUSE

The lot	Distribution of population	Environment	Effective locations	Happiness
The block	Regulation of future needs	Efficiency	Proper areas	Morals
The street	Character of service	Labor	Proper classification	Health
The street system	Transportation plan	The industrial plan	Park and playground plan	Housing plan

The Small House a Real Element

It is quite possible and very probable that some one will question the statement that a single element can have such far reaching effect, but in proof of this, one has only to remember the failure of the Quebec bridge. The element involved there was the strength of steel, the strength or allowable working stress was in some way exceeded and the result was the complete failure of the bridge. A child's blocks stood on end in a row is an excellent example and its application to the subject under consideration should be studied.

Street systems are formed by coördinating the streets of a city, town or village but how often have we seen symmetryism mistaken for coördination. There is no denial of the fact that symmetry does assist distribution and circulation and it is pleasing to the eye in plan but often in its use, the main factor or element is neglected in the placing of the street. What then are the elements of coördination? Simple though it seems the answer to this question is: first, determine the future character of the block, whether it be commercial, industrial or residential; second, by scientific study of the underlying element or unit, so plan as to make the block available and profitable only when used for the purpose for which it is intended.

Great commercial highways may be planned but suppose the abutting blocks are not properly planned, is it not evident that the street will prove a failure? Residential streets may be mapped out but suppose we forget the element in this subdivision, can an economic and healthful layout of houses be effected? Generally speaking, it can not. Volumes have been written in extolling the virtues of the small house and it can safely be said that almost every one approves of it. Better morals, a sense of responsibility and increased pride follow in the wake of these small houses and when the three characteristics mentioned have been instilled into a person, higher ideals and efficiency result. Crowding? Yes, just as much congestion or overcrowding could take place in these houses as in any tenement but it does not. Sanitary conditions are vastly better. Sunshine and air are more abundant. Today "small house" building is an art in itself.

Here then is the element which has such a controlling influence on all other branches of the art of city planning. If the small house is a good institution, then we need it, and if we need it, we have arrived at a unit for measuring: (1) the size of our blocks thereby locating our streets; (2) the town's transportation needs; (3) the number of industries the town can supply with labor; (4) for providing a good housing scheme for workmen; (5) for determining the areas needed for park, parkway and playground purposes; (6) for ascertaining the number and position of foodstuff distributing stations, and (7) determining the location and size of school houses and in fact all utilities.

Relation of the Small House to the Lot, Block and Street System

It has been said that, with the house as a unit, the larger subdivisions can be more scientifically planned than by assuming an arbitrary block and subdividing it. This fact is self-evident, but when one attacks a practical problem of planning say 3,000 acres, he immediately finds that there must be a compromise between system and element. In this case the element must be given precedence where it will not affect the general efficiency of the plan.

In a rectilinear system of streets, block depths can readily be obtained by determining on the character of the house but it is just at this point where theory is rudely jarred by practice. In Philadelphia the standard block in most sections of the city is 400 feet square. This provided for an excellent layout of lots, for by placing a 40-foot street midway in the block and providing two 3-foot alleys, a lot depth was left of 88½ feet or two 100 foot depth lots for the main streets and two 77 foot depth lots for the intermediate street. One can readily see the beauty and utility of such a layout, but alas, instead of one intermediate street being placed in a block, we now have two and the result is that the lot depth is cut to a minimum of sometimes 46 feet. Lately the board of surveyors of Philadelphia, who control such matters, have passed a resolution that lot depths should be at least 50 feet unless special reason is found for doing otherwise. But as the law allows the shallower depth, provided 144 square feet of yard space is left in the rear and side of the building, it remains for the board of surveyors to act as the check, by rejecting all city plans giving these objectionable lot depths.

Therefore, while the small house may be a great help to the street plan in many ways, yet it often affects it adversely. The small house of the Philadelphia type depends upon the rectilinear system for success and on this account more than once in Philadelphia, plans for a gently curving street following the natural topography have had to be abandoned owing to the attitude of the real estate owners and builders. Gradually however, these men are learning that "blighting" a high-class neighborhood with houses entirely out of its class is poor business.

Relation of the Small House to the Transportation Plan

That the small house aids in the distribution of population is also a fact which has an important bearing on the "city plan." Comparing the density of population, for example, in any tenement district with the population in an average small house district gives astonishing results. Once more, in planning or providing for future extensions, etc., the ultimate service necessary can easily be determined and this in itself is a wonderful help to either a city builder or planner. Naturally there are adverse transit effects created in a "small house" plan and one of these is the length of the local distribution lines. This point, however, acts as a boomerang to those making it, for if the transportation problem is properly solved, rapid transit lines will carry to distributing stations and the local surface lines can be comparatively short.

The Relation to Industries

This is the era in which a man is not judged by the number of hours he works but rather by how much he produces. In other words, efficiency is the measuring rod. Can anyone doubt that environment affects efficiency? The actual results speak for themselves and if one needs any proof of this fact, he may find it in the northeastern section of Philadelphia where thousands of these homes are built. Is it not reasonable to suppose that a workman will desire to work where he can find the best living conditions? For the past twenty-five years, great corporations have been removing to the open country, establishing new communities and providing the "small house" for their workmen. How then can we successfully plan a great industrial zone without due consideration to the element in the housing of its workmen and is it not true that in this element "the small house unit" has a vast controlling influence?

The Relation to Housing

It was mentioned above that great corporations were removing to the open country and establishing new homes for their workmen. Does anyone suppose that this is done on a philanthropic basis? They have realized what proper housing and environment can accomplish for a workman and the efficiency procured by this method pays large dividends. Gerald Lee in *Crowds* dwells considerably

on "the inspired millionaire" and he mentions Mr. Cadbury in favorable terms, but the writer is firmly convinced that Mr. Cadbury's shrewdness as a student of human nature and industrial reform led him to establish the village of Bourneville which today is a model of housing.

If the Philadelphia small houses were taken and interesting groups made of them instead of the long straight line, the acme of perfection in workmen's houses will have been reached. This would still further affect the size of lot and block and subsequently the street system. These houses are usually from 35 to 50 feet in depth. In the better class they are often built in pairs thus giving three sides of the house free to sunshine and air. Now, if a group of four of these smaller houses of say 14-foot front were placed together back to back, instead of having 28 feet of air and sunshine, they would have about 50 feet or nearly double. In addition to this the construction would be more economical. Any scheme presented on this subject must be backed by figures showing a financial gain, if it is to be considered at all. Therefore, assuming that the average frontage of a house is 15 feet 4 inches, in a row we have 26 houses and in a block 156 houses. In the scheme suggested using a 14 foot front we could obtain only 132, a loss of 24 houses. Again assume that the profit on these small houses selling between $2,000 and $3,000 is $250 per house, the loss then would be 24 times $250 or $6,000. Suppose now that owing to the better advantages of this style of layout $50 could be added to selling price. This would total $6,600 and, subtracting the loss above mentioned, produce a net gain for the block of $600.

Still another factor, and a large one, is the cost of construction. Here quite a percentage could be saved in many ways, one small item being in plumbing. A system could be devised necessitating but one water supply and one sewer outlet per unit and the system for the entire unit could be placed with great economy. If the saving thus effected be placed in beautifying the development, Philadelphia could become, with a single bound, just what its founders intended it to be, a garden city. I believe this will come to pass, at least in part, as soon as the builders realize that they are losing nothing. I believe it will still further emphasize the influence of the element in determining a housing scheme as well as a street system.

Relation to Parks, Schools, Markets, etc.

To the remaining subdivisions of city planning the small house has exactly the same relation as it has to the foregoing branches. Evenness of distribution of population produces a higher moral plane, greater sense of responsibility and appreciation of various benefits provided and will tend to produce a natural protection for these utilities. With this coöperation greater projects can be planned and supported and in time no man will be so ignorant as not to appreciate the greatest work of art that man has ever produced—the modern city.

Thus we see that the small house and the inhabitant thereof play an important part in the drama of city planning and building; and it remains for the engineer, the architect, the social worker and others to get their thoughts together and perfect this element which has such wide influence. Beautify this utility, spare no effort to make it the most comfortable place in the world for its dwellers and they will return the effort put forth in their behalf many fold greater. The inward thought of man is just as readily influenced, as it is expressed, by his house. Why lose this splendid opportunity for moulding characters?

Plan, plan well, without hesitation, radical, if you please, but forget not the one real element of all planning—the small house.